

Unofficial Translation



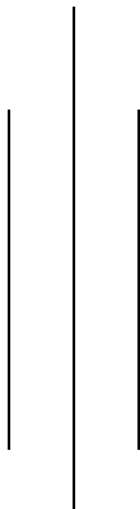
Government of Nepal
Ministry of Energy, Water Resources and Irrigation

National Energy Efficiency Strategy, 2075

(Approved by the Cabinet Meeting of the GoN on November 19, 2018)

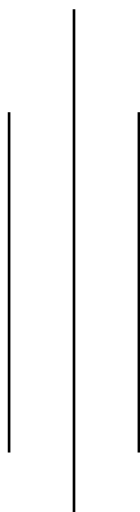
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1 Background

Article 51 (f) 3 of the constitution of Nepal has mentioned “ensuring reliable and affordable energy supply and proper utilization of energy by generation and development of renewable energy for the fulfillment of citizen’s basic needs.” There is a need for sufficient and reliable energy supply to achieve this goal. Nepal has been facing some complex but mutually interrelated energy challenges, such as, nearly one fourth of the total population still being outside the reach of modern energy sources; a wide gap between energy demand and supply; supply vulnerability and reduction in foreign currency reserves due to existing dependence on energy import.

With economic, physical and social development, Nepal has aimed to achieve the sustainable development goals set by the United Nations and reach the level of medium income countries by 2030 A.D. Among the sustainable development goals, the seventh goal is aimed to ensure the accessibility of affordable, reliable, sustainable and modern energy for all whereas the twelfth goal is aimed to promote sustainable and accountable production and use. To achieve these goals, it is necessary to establish policy, legal and institutional framework that ensures the availability of affordable and reliable energy and its efficient use. The current fourteenth plan has also mentioned to establish policy and institutional framework to promote energy efficiency in Nepal¹. An integrated national energy policy incorporating energy efficiency and demand side management of energy as well as legal and institutional arrangements are yet to be established for promotion of energy efficiency.

In order to promote sustainable supply of biomass energy available from animal waste, human excreta, fuelwood, agricultural residue, trees, forest residues including any biodegradable matters and to improve the efficient use of such biomass energy, the government of Nepal has already developed and adopted the Biomass Energy Strategy 2073. This strategy has been prepared for the promotion of energy efficiency and demand side management of energy, energy conservation, for the sustainable development of primarily modern and improved energy sources including hydropower, solar energy, wind energy, coal, natural gas, LPG and other petroleum products except biomass energy (which is also called traditional energy).

2 Past Efforts

In Nepal, efforts like study and analysis related to energy efficiency can be found to have started since 1985 whereas during 1999 to 2005 AD , initiatives like energy audits of industries, energy efficiency related trainings and increase in public awareness as well as management of loans for energy efficiency in industries were carried out. After that from 2009 to 2011, initiatives like demand side management of electricity, energy audit, study of electricity load profile, preparation of policy suggestions for promotion of energy efficiency as well as replacement of traditional bulbs with energy efficient bulbs were done under Nepal Electricity Authority.

By giving continuation to past attempts, since 2010, the tasks like providing policy suggestions

¹ Generally, energy efficiency is defined as an efficient consumption of energy by using or re-using appropriate tools, technology or appliances related to energy consumption. Energy efficiency condition is measured by the amount of energy required to produce per unit goods or services, or increasing energy efficiency means reducing amount of required energy use for producing per unit goods or services through the application of various measures, technologies or appliances. Average condition of national energy efficiency is measured by measuring the rate of decrease of energy intensity, which is defined by the declining amount of energy consumption required to produce per unit of national gross domestic products.

related to energy efficiency and demand side management, energy auditing, energy efficiency human resource development etc. have been implemented through Nepal Energy Efficiency Programme. Additionally, Industrial Energy Management Project under the Ministry of Industry, Commerce and Supplies has been conducting different training and awareness raising programs like energy auditing, energy auditor training the promotion of energy efficiency. In the process of establishing policy provisions, the government of Nepal has made a policy decision to supply electricity produced by sugar mills through cogeneration to the national grid as well as developed and approved the Biomass Energy Strategy, 2073.

3 Present Situation

There is a lack of awareness and publicity about the positive role energy efficiency can play for supply of sustainable, adequate and reliable energy supply in Nepal. Policy, legal and institutional frameworks have not yet been established to recognize energy efficiency as an additional source of energy and to remove potential barriers in energy efficiency promotion. Likewise, energy efficiency has not yet been fully integrated in overall energy system.

Nepal's annual electricity consumption per capita in 2074 B.S. has found only 190-kilowatt hour. Nepal's level of energy utilization is lower in comparison with those of other nations in South Asia. According to the recent financial survey for the fiscal year 2073/74 of Government of Nepal, there was 1.19 ton of oil equivalent² of energy consumed in Nepal for generating a gross domestic product of USD 1000. This means Nepal's total energy intensity is seen to be almost double of that of South Asia. During the same year according to the survey, only about 22 percent of total energy consumption was fulfilled by modern energy sources. The ever increasing import of fossil fuels and also electricity has made the condition of energy supply and energy security extremely weak and vulnerable. Almost all the amount of foreign earnings received from Nepal's commodity is being spent on energy import. Energy efficiency can be one of the measures to address current condition of energy poverty and over dependency on energy imports.

4 Challenges and Opportunities

4.1 Challenges

Energy efficiency is a wide and interdisciplinary subject that affects various fields and stakeholders. Despite the fact that efficient use of energy can have an important contribution in the overall development of the country and can help in improvement of energy access and energy security, energy efficiency has not been able to enjoy adequate priority in Nepal. Although there exists an arrangement in Industrial Management Act, 2073 Chapter 5, Article 22 (1) "m" to exempt all tax on investment in devices or equipments that help in reducing energy consumption by increasing energy efficiency, such legal instrument is yet to be implemented due to lack of necessary regulations, directories and other arrangements in place.

Due to the lack of proper guidance for implementing energy efficiency program, various efforts and initiatives have not been able to maintain harmony and achieve expected successes. In the

² 1.19 tonnes of oil equivalent = 1.19 x 11,630 kilowatt hour = 13,840 kilowatt hour

past, as different energy efficiency initiatives and activities were implemented in isolation, holistic and sustainable results could not be achieved and energy efficiency could not be accepted as an important part of energy strategy. Due to the lack of necessary awareness, energy efficiency could not be considered as an integral part of overall energy system not only among the general consumers but also among policy makers and at the implementation level. Energy efficiency has so far remained in the shadow also because of the lack of an institutional set up with necessary resources, accountability and clear jurisdiction to address energy efficiency in Nepal. Nepal has been facing various types of challenges to implement and institutionalize energy efficiency initiatives, some of which are as follows:

- 4.1.1 To integrate with priority energy efficiency along with energy supply in the planning, implementation and management of the overall energy sector of the nation.
- 4.1.2 To establish a capable institutional structure and regulatory mechanism for implementing the energy efficiency programme by formulating appropriate policy, legal system and strategy.
- 4.1.3 To formulate policies related to existing finance, tax and energy tariff in order to make energy market energy efficiency friendly.
- 4.1.4 To increase access to financial resources for energy efficiency
- 4.1.5 To enhance the technology and technological capacity related to energy efficiency

4.2 Opportunities

The following opportunities exist for promotion of energy efficiency:

- 4.2.1 Promotion of energy efficiency can give attractive financial returns even with lower investment.
- 4.2.2 Energy conservation is relatively cheaper and more effective compared to energy generation.
- 4.2.3 Energy efficiency can assist in reducing trade imbalance in the country by reducing energy import.
- 4.2.4 Energy efficiency can create more employment opportunities by making energy market cheaper and more competitive.
- 4.2.5 Energy efficiency can increase the energy access.
- 4.2.6 Energy efficiency can help increase energy security by reducing energy import and energy deficiency.
- 4.2.7 Energy efficiency can help in achieving the goals of sustainable development, in reducing carbon emission and environmental imbalance and in minimizing the negative effects of climate change.

5 Rationale of the Strategy

As there is no arrangement of a separate strategy related to promotion energy efficiency so far, it is necessary to formulate such strategy. The present need is to include energy efficiency strategy in a comprehensive and integrated energy strategy and make the development, implementation and management of energy efficiency initiatives sustainable and effective. It is extremely necessary to have the energy efficiency strategy for establishing necessary legal and institutional structure required for implementation and monitoring energy efficiency programmes as well as for interagency coordination. Likewise, energy efficiency strategy will be required to formulate and implement strategic planning of integrated sustainable development initiatives.

6 Vision, Mission and Goals

6.1 Vision

To assist in energy security by increasing the energy access through efficient use of available energy.

6.2 Mission

To promote energy efficiency by effectively implementing energy efficiency programmes through establishing policy, legal and institutional frameworks.

6.3 Goals

To double the average improvement rate of energy efficiency in Nepal from 0.84% per year, which existed during the period of 2000 -2015 AD to 1.68% per year in 2030 AD.

7 Objectives

- 7.1 Support to economic growth by reducing energy intensity and increasing productivity
- 7.2 Reduce existing energy shortage, increase energy access and provide important contribution to energy security by efficient use of energy.
- 7.3 Create employment opportunities by creation, expansion and commercialization of energy efficiency market
- 7.4 Maintain environmental balance and bring positive improvements in health by efficient use of energy.

8 Strategy

- 8.1 Generate awareness on energy efficiency from the consumers' level to policy makers' level. (7.2; 7.3)
- 8.2 Establish policy, legal and institutional frameworks for resources management, resources mobilization, infrastructure development and human resources development required

for energy efficiency. (7.4)

- 8.3 Develop national standards for energy efficiency based on established international and regional standards as well as to develop equipments and means for measuring energy efficiency. (7.4)
- 8.4 Make services and production cost effective and competitive by reducing energy consumption needed for production of goods and services. (7.1)
- 8.5 Reduce energy import by energy conservation. (7.1; 7.2)

9 Working Principles

The following action plans will be considered for the implementation of aforementioned strategies (the Strategy implementation action plan is included in the Schedule) :

- 9.1** Generate awareness on energy efficiency from the consumers' level to policy makers' level.
 - 9.1.1 Conduct public awareness campaigns related to energy efficiency by targeting household sector.
 - 9.1.2 Conduct energy efficiency initiatives by targeting consumers of industrial, commercial and transport sectors.
 - 9.1.3 Conduct energy efficiency initiatives for farmers about energy efficient equipments in agriculture and their uses.
 - 9.1.4 Include subject materials related to energy efficiency into the curriculum of educational institutions and conduct activities related to energy efficiency.
 - 9.1.5 Conduct activities related to energy efficiency in public and community organizations.
- 9.2** Establish policy, legal and institutional frameworks for resources management, resources mobilization, infrastructure development and human resources development required for energy efficiency.
 - 9.2.1 Establish an energy efficiency entity for promotion, development and implementation of energy efficiency.
 - 9.2.2 Strengthen the existing energy efficiency cell in the Ministry of Energy, Water Resources and Irrigation as well as formulate and implement various activities related to energy efficiency.
 - 9.2.3 Carry out research and study on energy efficiency and demand side management as well as promote and develop energy efficient technologies also in collaboration with relevant ongoing projects.

- 9.2.4 Develop an appropriate system for commercialization and market expansion of energy efficient technologies. Ensure energy efficiency during production, import or sales of technology and equipments.
- 9.3 Develop national standards for energy efficiency based on established international and regional standards as well as to develop equipments and means for measuring energy efficiency.
 - 9.3.1 Carry out detailed study and energy audits of electrical and mechanical appliances in energy consuming various sectors and identify energy saving measures by developing energy performance standards.
 - 9.3.2 Conduct activities that promote the use of energy efficient equipments in transport and industrial sectors and reduce air pollution and greenhouse gas emission.
 - 9.3.3 Determine energy efficiency standards and label of equipments being used in energy consuming different sectors and ensure their compliance.
 - 9.3.4 Ensure the human resources development and capacity enhancement needed for the production, commercialization and technology transfer of energy efficiency related goods and services through the use of energy efficient technologies.
- 9.4 Make services and production cost effective and competitive by reducing energy consumption needed for production of goods and services.
 - 9.4.1 Institutionalize energy efficiency in Nepal through the development of National Energy Efficiency Action Plan.
 - 9.4.2 Identify large-scale electricity consumers and conduct their energy audit.
 - 9.4.3 Prepare necessary human resources for energy audits by conducting energy auditors' training as required for various fields and by establishing an accreditation system of energy auditors.
 - 9.4.4 Develop minimum energy performance standards for electrical and mechanical equipments being used in various sectors.
 - 9.4.5 Conduct various activities related to energy audits in industrial, commercial and public sectors.
- 9.5 Reduce energy import by energy conservation.
 - 9.5.1 Reduce energy imports by utilizing the energy saved through energy efficiency
 - 9.5.2 Carry out study and research on reducing peak demand and implement various programmes on demand side management of energy.

10 Implementation of Strategy

According to the arrangement provided by the constitution of Nepal, the implementation of this strategy will be done through the participation of local, provincial and federal level stakeholders for the rational use of energy and for the promotion of energy efficiency as follows:

10.1 Sector-wise Implementation and Management

For the implementation of energy efficiency programmes, sectors will be identified in local, provincial and federal level based on energy consumption and appropriate energy efficiency measures for each sector will be implemented. Necessary framework conditions will be established in order to implement, regulate and monitor these measures. Energy efficiency standards and label of the equipment to be used in various energy-consuming sectors will be determined. Use of energy efficient machines, equipment, tools or goods will be encouraged. In order to ensure the quality assurance of such equipments as per the prescribed standards, they will be checked at the entry point in case of imported goods and at the very production point in case domestically produced machines, equipment, tools or goods will be checked for being as per the fixed quality criteria at the import point in case of imported goods and at production point for domestically produced machines, equipments, tools or goods.

10.2 Time-bound Implementation

For the implementation of energy efficiency, short-term, mid-term and long-term measures will be adopted in local, provincial and federal level. In order to address the current transitional phase of energy shortage, awareness raising measures on use of energy saving equipment and technology as a short-term measure will be encouraged. As a mid-term measure, in order to increase the use of energy efficient appliance and technology, appropriate arrangements of development, implementation, monitoring and evaluation of a fiscal incentive mechanism will be established. As the long-term measures, necessary energy efficiency initiatives will be adopted in all energy consuming sector for the sustainable, reliable, efficient and quality use of available energy.

10.3 Stakeholders Participation

As per the arrangement of the Schedule (8) of the constitution of Nepal, electrical services fall under the shared jurisdiction of local, province and federal levels. Likewise, as per the Local Government Operation Act 2074 Article (11) Sub-Article (4) (c) (1), the electricity distribution service and electricity system management fall under the jurisdiction of local bodies. While implementing energy efficiency programmes or adopting energy efficiency measures, enabling environment for participation of and support from relevant stakeholders of all three levels created. In energy efficiency activities, proper coordination will be made among the government authority; the consumers; and the agency, firm or company that produce or import technology, goods or equipments.

11 Legal Aspect

For the meantime, the implementation of energy efficiency will be made effective and result oriented through the issue of an executive order or directive. Additionally, existing energy related acts, rules and legal arrangements will be reviewed, necessary amendments will be made and required legal arrangements will be established.

12 Institutional Structure

An energy efficiency entity will be designated for the promotion, development and implementation of energy efficiency. Such entity will ensure the coordination among the relevant stakeholders; implement this strategy; develop a National Energy Efficiency Action Plan; implement the Plan; monitor and evaluate the implementation of the Plan as a regulatory body. In coordination and under the leadership of energy efficiency entity, separate energy efficiency strategy implementation and monitoring units will be established in all designated implementing agencies.

13 Financial Aspect

The Government of Nepal will arrange necessary financial resources from local and national private, cooperative and public sector stakeholders to ensure additional financial and technical capabilities required for successful and effective implementation of this strategy. In addition to that, necessary financial resources will be managed by mobilizing financial and technical assistance available from national and international investors and international development partners³.

14 Research and Development

Emphasis will be given to necessary study, research, technology development and expansion as well as technology transfer for making energy efficiency programmes successful, affordable, effective, result-oriented and accessible to all. Cooperation and collaboration for applied research will be developed among the authorities implementing energy efficiency programmes, educational institutions and research agencies.

15 Monitoring and Evaluation

The main responsibility of monitoring and evaluation of the implementation of this strategy will stay with the Ministry of Water Resources, Energy and Irrigation. However, while doing so, the participation of the other concerned ministries, departments and all relevant stakeholders will

³ According to the preliminary estimates of the study carried out during the formulation of this strategy, an annual investment of about 670 million US dollar (in 2001 price level) would be required by 2030 AD in order to achieve the target set for energy efficiency.

be ensured. Arrangements will be made to annually publish the progress achieved and results obtained regarding the status of the set targets and implementation of this strategy. Apart from this, necessary arrangements will be made to annually publish the statistics including the investments made in energy efficiency; the savings made through these investments; and achieved returns on investments; etc. This strategy will be periodically reviewed and amended as per the necessity.

The following indicators for monitoring and evaluation of the implementation of this strategy:

- a) Annual records of energy efficiency improvements will be established and the progress in achieving the set goals will be monitored and evaluated by measuring the energy intensity
- b) Periodic monitoring and evaluation of the indicators related to the achievements of the Nepal's sustainable development goal 7.3 related to the energy efficiency will be done
- c) In order to implement the 5-working principles as determined by this strategy, a National Energy Efficiency Action Plan will be formulated and regular monitoring and evaluation of the implementation status of the sectoral action plans based on the defined indicators

Schedule : Energy Efficiency Strategy Implementation Action Plan

Strategic Sector	Activities	Present Situation (2018)	Goal (2030)	Main Responsible Agency / Agencies	Supporting Agency / Agencies	Time Period
1. Generate awareness on energy efficiency from the consumers' level to policy makers' level	1.1 Conduct public awareness campaigns related to energy efficiency by targeting residential sector.	Limited knowledge about energy efficient and energy efficient appliances, limited knowledge on required investment and benefits of energy efficient appliances	Every household made aware about energy efficiency and energy efficient appliances through various media	Ministry of Energy, Water Resources and Irrigation/ Nepal Electricity Authority	Nepal Television/ Gorkhapatra Sansthan/ Radio Nepal	Continuous from 2018 A.D
	1.2 Conduct programs related to energy efficiency by targeting consumers of industrial, commercial and transport sectors.	Limited knowledge on energy efficient equipment and fuel efficient transport, lack of clear policy on energy efficiency in commercial sector	Industrial, commercial and transport sectors made aware about the use of energy efficient equipment and technology	Ministry of Industry, Commerce and Supplies/ Nepal Electricity Authority	Department of Industry/ Department of Transport Management	Continuous from 2018 A.D
	1.3 Conduct programmes related to energy efficiency for farmers on energy efficient equipment and their uses in agriculture.	No programs conducted about energy efficiency in agriculture sector	Conduct programs to encourage farmers to use energy efficient equipment	Ministry of Energy, Water Resources and Irrigation/ Ministry of Agricultural, Land Management and Cooperatives	Department of Agriculture	Continuous from 2020 A.D
	1.4 Incorporate energy efficiency in the curricula of educational institutions and conduct energy efficiency programmes	Lack of sufficient inclusion of energy efficiency, energy audit and energy management in the curricula	Emphasize energy audit and energy conservation by including energy efficiency along with renewable energy in the curricula	Ministry of Education, Science and Technology/ Ministry of Energy, Water Resources and Irrigation	Department of Education / TU / other universities / schools	Continuous from 2018 A.D
	1.5 Conduct programs related to energy efficiency in public and community organizations.	No programs conducted about energy efficiency in public and community organizations	Conduct programs about energy efficiency in public and community organizations	Ministry of Education, Science and Technology	Department of Education/ Ministry of Energy, Water Resources and Irrigation/ Nepal Electricity Authority	Continuous from 2018 A.D

Strategic Sector	Activities	Present Situation (2018)	Goal (2030)	Main Responsible Agency / Agencies	Supporting Agency / Agencies	Time Period
2. Establish policy, legal and institutional frameworks for resources management, resources mobilization, infrastructure development and human resources development required for energy efficiency.	2.1 Designate an energy efficiency entity for promotion, development and implementation of energy efficiency.	Institutional, policy and legal framework for promotion and development of energy efficiency not yet established in Nepal	Designate an energy efficiency entity to adopt and implement energy conservation and energy efficiency measures	Ministry of Energy, Water Resources and Irrigation	Ministry of Industry, Commerce and Supplies /Department of Electricity Development	2018 A.D to 2020 A.D
	2.2 Strengthen the existing energy efficiency cell in the Ministry of Energy, Water Resources and Irrigation as well as formulate and implement various activities related to energy efficiency	Energy efficiency cells have been formed in the Ministry of Energy, Water Resources and Irrigation and as well as in Nepal Electricity Authority	Establish energy efficiency cells in all relevant ministries, departments and other agencies	Ministry of Energy, Water Resources and Irrigation	Nepal Electricity Authority/ Department of Electricity Development/ Water and Energy Commission Secretariat	Nepal Electricity Authority/ Department of Electricity Development/ Water and Energy Commission Secretariat
	2.3 Carry out research and study on energy efficiency and demand side management as well as promote and develop energy efficient technologies also in collaboration with relevant ongoing projects	Lack of sufficient incentives and financial assistance for research in energy efficiency	Provide financial and technical support for study, research and promotion in the field of energy efficiency	Ministry of Energy, Water Resources and Irrigation/ Ministry of Finance	Nepal Academy of Science and Technology/ Nepal Electricity Authority	Continuous from 2020 A.D
	2.4 Develop a system for commercialization & market expansion of energy efficient technologies. Ensure energy efficiency during production, import or sales of technology and equipment	Lack of sufficient infrastructure development for commercialization and market expansion of energy efficient service providers and energy efficient equipments	Provide energy audit services by commercialization and market expansion of energy efficient technologies	Ministry of Energy, Water Resources and Irrigation/ Nepal Electricity Authority/ Ministry of Finance	Nepal Academy of Science and Technology/ Nepal Bureau of Standards and Metrology/ Tribhuvan University	Nepal Academy of Science and Technology/ Nepal Bureau of Standards and Metrology/ Tribhuvan University

Strategic Sector	Activities	Present Situation (2018)	Goal (2030)	Main Responsible Agency / Agencies	Supporting Agency / Agencies	Time Period
3. Develop national standards for energy efficiency based on established international and regional standards as well as to develop equipments and means for measuring energy efficiency	<p>3.1 Carry out detailed study and energy audits of electrical and mechanical appliances in energy consuming various sectors and identify energy saving measures by developing energy performance standards</p> <p>3.2 Conduct activities that promote the use of energy efficient equipments in transport and industrial sectors and reduce air pollution and greenhouse gas emissions</p> <p>3.3 Determine energy efficiency standards and label of equipments being used in energy consuming different sectors and ensure their compliance</p>	<p>No national standards on minimum energy performance</p> <p>Limited programs on reduction of air pollution and greenhouse gas emissions through energy efficiency</p>	<p>Develop national standards on minimum energy performance</p> <p>Reduce air pollution by developing an integrated energy efficiency strategy</p> <p>Develop national energy efficiency standards, establish a system of verification of equipments with the labels of regional and international standards</p>	<p>Ministry of Industry, Commerce and Supplies/ Ministry of Energy, Water Resources and Irrigation</p> <p>Ministry of Industry, Commerce and Supplies/ Ministry of Forest and Environment</p> <p>Ministry of Industry, Commerce and Supplies/ Ministry of Energy, Water Resources and Irrigation</p>	<p>Department of Industry/ Nepal Bureau of Standards and Metrology/ Nepal Electricity Authority</p> <p>Department of Industry/ Department of Transportation Management/ Department of Environment</p> <p>Nepal Bureau of Standards and Metrology/ Nepal Electricity Authority</p>	<p>Continuous from 2020 A.D</p> <p>Continuous from 2018 A.D</p> <p>Continuous from 2019 A.D</p>

Strategic Sector	Activities	Present Situation (2018)	Goal (2030)	Main Responsible Agency / Agencies	Supporting Agency / Agencies	Time Period
	3.4 Ensure human resources development and capacity enhancement needed for production, commercialization and technology transfer of energy efficiency related goods and services through use of energy efficient technologies	Lack of necessary infrastructure for energy efficiency and energy audits; lack of enough skilled human resources	Develop necessary infrastructure and skilled human resources for promotion of energy efficiency and energy audits	Ministry of Education, Science and Technology/ Ministry of Energy, Water Resources and Irrigation/ Ministry of Industry, Commerce and Supplies	Department of Education/ Council for Technical Education and Vocational Training	Continuous from 2018 A.D
4. Make services and production cost effective and competitive by reducing energy consumption needed for production of goods and services	4.1 Institutionalize energy efficiency in Nepal through the development of National Energy Efficiency Action Plan	No institutional mechanism for monitoring of energy efficiency activities and energy audits in the country	Establish institutional mechanism in Nepal by development of National Energy Efficiency Action Plan	Ministry of Energy, Water Resources and Irrigation	Department of Electricity Development/ Nepal Electricity Authority	From 2018 A.D to 2020 A.D
	4.2 Identify large-scale electricity consumers and conduct their energy audits	Large electrical energy consumers identified but not formally institutionalized	Develop a system for regular energy audits of for large electricity consumers	Ministry of Energy, Water Resources and Irrigation / Ministry of Industry, Commerce and Supplies	Department of Industry/ Federation of Nepalese Chamber of Commerce and Industries/ Confederation of Nepalese Industries	regular from 2018 A.D (Semiannually)
	4.3 Prepare necessary human resources for energy audits by conducting energy auditors' training as required for various fields and by establishing an accreditation system of energy auditors	Limited trainings conducted on energy audits and energy management but no system for accreditation of these trainings	Make arrangements for regional and international level trainings on energy audits and energy management and their accreditation	Ministry of Energy, Water Resources and Irrigation/ Ministry of Industry, Commerce and Supplies	Nepal Bureau of Standards and Metrology / Council for Technical Education and Vocational Training	Continuous from 2020 A.D

Strategic Sector	Activities	Present Situation (2018)	Goal (2030)	Main Responsible Agency / Agencies	Supporting Agency / Agencies	Time Period
	4.4 Develop minimum energy performance standards for electrical and mechanical equipments being used in various sectors	No national standards on energy performance indicators of energy efficient equipments	Develop quality standards and minimum energy performance indicators of equipments used in different energy consuming sectors	Ministry of Energy, Water Resources and Irrigation/ Ministry of Commerce and Supplies	Nepal Bureau of Standards and Metrology / Nepal Academy of Science and Technology	From 2019 A.D to 2022 A.D
	4.5 Conduct various programmes for energy audits in industrial, commercial and public sectors	Lack of policy and programmes for systematic and regular energy audits, though limited number of energy audits have been conducted	Conduct various programmes for energy audits in relevant areas including industrial, commercial and public sectors	Ministry of Energy, Water Resources and Irrigation/ Ministry of Industry, Commerce and Supplies	Department of Industry/ Department of Electricity Development	From 2019 A.D to 2022 A.D
5. Reduce energy import by energy conservation	5.1 Reduce energy imports by utilizing the energy saved through energy efficiency	The condition of energy shortages to exits to some extent; lack of energy efficiency and energy conservation assurances; lack of energy sufficiency	Develop necessary mechanism and reduce energy import through energy efficiency and energy conservation	Ministry of Energy, Water Resources and Irrigation	Nepal Electricity Authority / Department of Electricity Development	From 2019 A.D to 2022 A.D
	5.2 Carry out study and research on reducing peak demand and implement various programmes on demand side management of energy	Limited studies and research on energy efficiency and demand side management	Conduct study and research on energy efficiency and demand side management	Ministry of Energy, Water Resources and Irrigation/ Nepal Electricity Authority / Department of Electricity Development	Nepal Academy of Science and Technology/ Water and Energy Commission Secretariat/ Tribhuvan University	Semiannually regular from 2019 A.D



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